CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No: CTCE/BBMP/WNo.17/MK/BM(QB)/2014-15 02.05.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	:	**Mr. M. Krishnamurthy,** Contractor, Bangalore.
NAME OF THE WORK	:	Providing and laying HDPE Water line in Ganesha Temple Block - IV in JP Park, Ward No. 17, BBMP, Bangalore.
REFERENCE	:	EE/RRND/Wo. No./221/2013-14 Dated: 05.02.2014
SAMPLE ID	:	Bitumen
DATE OF TESTING		02.05.2014

The results of the tests conducted on the bitumen sample using for Bituminous Macadam

Sl. No	Description	Test Method as per IS	Test Result	Requirement as per IS:73:2013
1	Penetration at 25 ^{0}C, 1/10 mm	IS :1203 -1978 (RA-2009)	65	60 to 70
2	Softening point, ^{0}C	IS :1205 -1978 (RA-2009)	48	Min. 45
3	Ductility at 27^{0}C, cm	IS :1208 -1978 (RA-2009)	100 >	Min. 50
4	Flash Point, ^{0}C	IS :1209 -1978 (RA-2009)	284	Min. 220

Note:

⇒ This test report shall not be reproduced except in full, without written approval of the laboratory.

⇒ The results indicated above are based on the tests carried out on the samples collected from the plant.

⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

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Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. M. Krishnamurthy,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Ganesha Temple Block - IV in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./221/2013-14 Dated: 05.02.2014
Source / Location	Hotmix Plant
Type of Mix	Bituminous Macadam
Date of Testing	02.05.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	379	382	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	80	83	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	299	
4	Aggregate Impact value = percent fines	21.11	21.73	
	$100^* (W_2/W_1)\%$			21.42

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Macadam is 30%

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Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. M. Krishnamurthy,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Ganesha Temple Block - IV in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./221/2013-14 Dated: 05.02.2014
Source / Location	Hotmix Plant
Type of Mix	Bituminous Macadam
Date of Testing	02.05.2014

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	380	384	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	81	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	299	
4	Aggregate Impact value = percent fines	21.32	22.14	
	100* (W_2/W_1)%			21.73

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Macadam is 30%

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DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	: **Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	: **Mr. M. Krishnamurthy,** Contractor, Bangalore.
Name of Work	: Providing and laying HDPE Water line in Ganesha Temple Block - IV in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	: EE/RRND/Wo. No./221/2013-14 Dated: 05.02.2014
Technical Reference	: IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	: Bituminious Macadam
Date of Testing	: 02.05.2014

Flakiness Index = **11.23%**

Elongation Index = **13.57%**

Result : Combined Flakiness & Elongation index **24.80%**

Comments:

→ Maximum allowable flakiness & Elongation Index for Bituminous Macadam is 30%

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